CRUISE REPORT
S203

Scientific data collected aboard
SSV Robert C. Seamans

Papeete, Tahiti – Rangiroa Atoll, Tuamoto Archipelago – Nuku Hiva, Marquesas – Honolulu, Hawaii

7 February, 2006 - 18 March, 2006

Photo by Jeff Schell

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Table 1. S203 Ship's crew and student participants

Nautical Staff		
	David Bank	Captain
	TC (Timothy Collyer)	Chief Mate
	Jed Deering	2nd Mate
	Lizzy Grubin	3rd Mate
	Dusty Smith	Engineer
	Megan Matsutani	Assistant Engineer
	Sarah Collyer	Steward
	Abby Gray	Deckhand
	Emily Hall	Deckhand
	Monica Kerr-Riess	Deckhand
Scientific Staff		
	Jeff Schell	Chief Scientist
	Adam Baske	1st Scientist
	Erika Stafne	2nd Scientist
	Jane McCamant	3rd Scientist
Maritime Studies Staff		
	Ted Farrel	Visiting Scholar
Students		
	Zoe E. Acher	Dartmouth College
	Alex H. Dowley	St. Lawrence University
	Abbey S. Dubin	Columbia University
	Jonathan P. Fagan	Earlham College
	Jessica L. Friedman	Washington University in St. Louis
	Kerensa C. Gallaway	Roger Williams University
	Brian J. Goff	Carleton College
	Matthew D. Jurjonas	University of Denver
	Letrice N. Kelly	Savannah State University
	Joseph E. Mastrangelo	Roger Williams University
	Shannon N. McIntyre	McGill University
	Andrea G. Murphy	Northeastern University
	Kayla J. Ouellette	Millsaps College
	Ariadne T. Reynolds	Cornell University
	Emilie L. Ross	Brown University
	Theodore Samuels	Reed College
	Annika E. Savio	Hamilton College
	Andrew R. Scott	Hobart & William Smith Colleges
	Stephanie Thompson	Norwich University
	Adria J. Wentzel	Cornell University

Data Description

This cruise report provides a record of data collected during S203 aboard the *SSV Robert C. Seamans* from Papeete, Tahiti to Honolulu, Hawaii (Figure 1) with stops at Rangiroa Atoll, and Nuku Hiva, Marquesas. We collected samples or data with 189 individual deployments from 69 discrete stations (Table 2) along our cruise track. In addition we continuously sampled water depth, sub-bottom profiles and Acoustic Doppler Current Profiles (ADCP) along with flow-through sea surface temperature, salinity and *in vivo* fluorescence. This report summarizes physical, chemical and biological characteristics at the sea surface (Table 3, Figure 2) and at depth (Tables 4 and 5, Figure 3a) along our cruise track and around surveyed seamounts (Figure 3b). Large scale hydrography are summarized by contour plots of temperature, salinity and sound velocity or fluorescence along our cruise track (Figure 4a) and around surveyed seamounts (Figure 4b and c); whereas large scale current patterns are summarized by contour plots of current direction, magnitude and echo amplitude (Figure 5a - c).

The distribution of neuston net stations, meter net stations and corresponding zooplankton density and numbers of select nekton species are presented (Table 6 and 7). Distribution and depth of phytoplankton drift nets are also provided (Table 8). Location and relevant station depths for bathyphotometer, secchi disc and shipek grab (atop seamount summits) deployments are shown in tables 9-11 respectively.

A complete oceanographic survey of two seamounts, west of the Marquesan Islands was completed. Additional CTD, CHIRP, ADCP and biological data not reported here are available on request through Sea Education Association (SEA) and the Chief Scientist. The information in this report is not intended to represent final interpretation of the data and should not be excerpted or cited without written permission from SEA.

In addition, diel patterns of myctophids (lantern fish), pteropods and bioluminescence potential were studied in relation to the lunar phase. Results, not reported here, are available upon request through SEA.

As part of SEA's educational program, undergraduates conducted idependent oceanographic research during the cruise. Project topics explored physical, chemical, biological and geological oceanography (Table 12). Student research efforts culminated in a written report and public presentation to the ship's company. These papers are available on request from SEA.

Jeff Schell
Chief Scientist
S203

Figure 1. Final cruise track for S203 based on hourly (local time) positions.

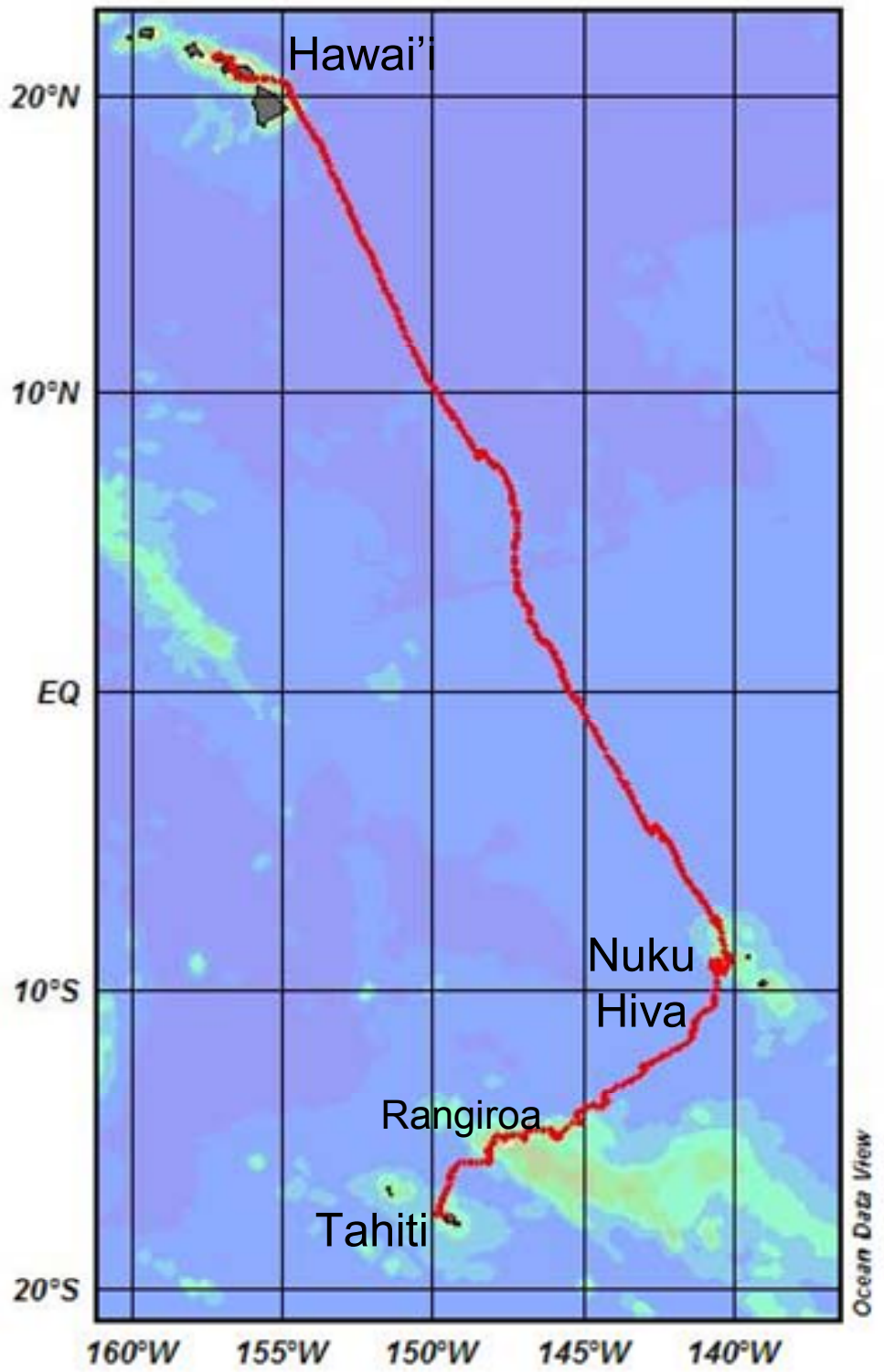

Table 2. Station summary of oceanographic sampling for S203.

Station # (S203-)	Date (2006)	Time (local +10 GMT)	Log (nm)	Lat (dec Deg N)	Lon (dec Deg W)	Location	Station Type
001	7-Feb	13:07	0	-17.54	-149.57	Alongside Tahiti	PN
002	7-Feb	18:02	16	-17.51	-149.85	Anchored Moorea	PN
003	9-Feb	09:51	95	-16.24	-149.40	SPEW	CTD
003	9-Feb	10:20	95	-16.24	-149.41	SPEW	PN
004	9-Feb	22:42	132	-15.80	-149.20	SPEW	MN
004	9-Feb	22:50	133	-15.80	-149.20	SPEW	NT
005	10-Feb	09:09	196	-15.70	-148.16	SPEW	PN
005	10-Feb	09:15	196	-15.70	-148.16	SPEW	CTD
005	10-Feb	09:29	196	-15.70	-148.16	SPEW	HC
005	10-Feb	10:11	196	-15.72	-148.16	SPEW	PN
005	10-Feb	10:11	196	-15.72	-148.16	SPEW	PN
005	10-Feb	09:09	196	-13.65	-144.26	SPEW	SD
006	10-Feb	22:15	226	-15.33	-148.19	SPEW	MN
006	10-Feb	22:21	226	-15.33	-148.19	SPEW	NT
007	11-Feb	07:11	282	-14.91	-147.58	SPEW	CTD
007	11-Feb	07:14	282	-14.90	-147.58	SPEW	PN
008	12-Feb	00:13	305	-14.80	-147.57	SPEW	NT
008	12-Feb	00:08	305	-14.80	-147.57	SPEW	MN
009	12-Feb	09:10	351	-14.98	-146.93	SPEW	CTD
009	12-Feb	09:10	351	-14.98	-146.93	SPEW	SD
009	12-Feb	09:39	351	-15.00	-146.94	SPEW	PN
009	12-Feb	12:11	351	-15.00	-146.95	SPEW	PN
009	12-Feb	12:13	351	-15.00	-146.95	SPEW	PN
009	12-Feb	09:30	351	-14.98	-146.93	SPEW	HC
010	13-Feb	00:15	377	-14.60	-146.81	SPEW	MN
010	13-Feb	00:27	378	-14.60	-146.81	SPEW	NT
011	13-Feb	09:07	432	-14.71	-146.03	SPEW	CTD
011	13-Feb	10:22	432	-14.73	-146.03	SPEW	MN
011	13-Feb	10:32	433	-14.75	-146.03	SPEW	MN
011	13-Feb	10:44	434	-14.76	-146.03	SPEW	MN
011	13-Feb	10:46	434	-14.77	-146.03	SPEW	NT
012	13-Feb	21:10	454	-14.84	-145.92	SPEW	CTD
012	13-Feb	21:30	454	-14.84	-145.92	SPEW	BP
012	13-Feb	21:34	454	-14.84	-145.92	SPEW	PN
012	13-Feb	21:39	454	-14.84	-145.92	SPEW	PN
013	13-Feb	23:54	455	-14.85	-145.93	SPEW	CTD
013	14-Feb	00:13	455	-14.86	-145.94	SPEW	BP
013	14-Feb	00:43	455	-14.86	-145.94	SPEW	PN
013	14-Feb	00:43	455	-14.86	-145.94	SPEW	PN
013	14-Feb	01:33	455	-14.87	-145.94	SPEW	MN
013	14-Feb	01:56	455	-14.88	-145.94	SPEW	MN
013	14-Feb	02:11	456	-14.88	-145.93	SPEW	MN
013	14-Feb	02:16	457	-14.91	-145.93	SPEW	NT
014	14-Feb	04:24	458	-14.58	-145.92	SPEW	CTD
014	14-Feb	04:34	458	-14.58	-145.92	SPEW	BP
014	14-Feb	05:04	458	-14.91	-145.93	SPEW	PN
014	14-Feb	05:11	458	-14.91	-145.93	SPEW	PN

015	14-Feb	21:00	544	-14.07	-145.23	SPEW	CTD
016	15-Feb	09:08	620	-13.63	-144.25	SPEW	CTD
016	15-Feb	09:08	620	-13.63	-144.25	SPEW	SD
016	15-Feb	09:08	620	-13.63	-144.25	SPEW	HC
017	15-Feb	10:15	620	-13.65	-144.26	SPEW	CTD
017	15-Feb	10:15	620	-13.65	-144.26	SPEW	SD
017	15-Feb	10:15	620	-13.65	-144.26	SPEW	HC
017	15-Feb	11:01	620	-13.66	-144.27	SPEW	PN
017	15-Feb	11:05	620	-13.66	-144.27	SPEW	PN
018	16-Feb	00:15	686	-13.10	-143.67	SPEW	MN
018	16-Feb	00:27	686	-13.11	-143.67	SPEW	NT
019	16-Feb	09:06	745	-12.59	-143.02	SPEW	CTD
019	16-Feb	09:13	745	-12.59	-143.02	SPEW	PN
020	17-Feb	09:08	870	-11.55	-141.38	SPEW	CTD
021	17-Feb	21:04	909	-11.01	-141.25	SPEW	MN
021	17-Feb	21:19	910	-11.02	-141.26	SPEW	NT
022	18-Feb	20:38	1045	-9.17	-140.61	Seamount 1	SG
022	18-Feb	20:53	1045	-9.17	-140.61	Seamount 1	CTD
023	18-Feb	23:08	1052	-9.12	-140.62	Seamount 1	SG
023	18-Feb	23:25	1052	-9.12	-140.62	Seamount 1	CTD
024	19-Feb	03:29	1065	-9.03	-140.70	Seamount 1	CTD
025	19-Feb	06:06	1075	-9.03	-140.56	Seamount 1	CTD
025	19-Feb	06:06	1075	-9.03	-140.56	Seamount 1	SD
026	19-Feb	08:43	1078	-9.06	-140.63	Seamount 1	MN
026	19-Feb	08:57	1079	-9.06	-140.63	Seamount 1	NT
027	19-Feb	11:30	1084	-9.09	-140.70	Seamount 1	CTD
027	19-Feb	11:30	1084	-9.09	-140.70	Seamount 1	SD
028	19-Feb	13:38	1089	-9.12	-140.63	Seamount 1	MN
028	19-Feb	13:38	1089	-9.12	-140.63	Seamount 1	SD
028	19-Feb	13:48	1090	-9.12	-140.64	Seamount 1	NT
029	19-Feb	16:35	1095	-9.12	-140.58	Seamount 1	SD
029	19-Feb	16:47	1095	-9.12	-140.58	Seamount 1	CTD
030	19-Feb	18:47	1097	-9.16	-140.61	Seamount 1	MN
030	19-Feb	18:51	1097	-9.16	-140.62	Seamount 1	NT
031	19-Feb	21:19	1102	-9.20	-140.69	Seamount 1	CTD
032	20-Feb	00:10	1110	-9.20	-140.61	Seamount 1	NT
032	19-Feb	23:47	1110	-9.19	-140.61	Seamount 1	MN
033	20-Feb	02:20	1115	-9.20	-140.56	Seamount 1	CTD
034	23-Feb	23:59	1165	-8.92	-140.10	Anchored Nuku Hiva	PN
035	24-Feb	15:55	1201	-8.94	-140.17	Anchored Nuku Hiva	PN
036	25-Feb	06:04	1285	-7.70	-140.53	Seamount 2	CTD
036	25-Feb	06:04	1285	-7.70	-140.53	Seamount 2	SD
037	25-Feb	08:01	1290	-7.66	-140.60	Seamount 2	SG
037	25-Feb	08:01	1290	-7.66	-140.60	Seamount 2	SD
037	25-Feb	08:18	1290	-7.66	-140.61	Seamount 2	CTD
038	25-Feb	11:39	1292	-7.62	-140.66	Seamount 2	CTD
038	25-Feb	11:39	1292	-7.62	-140.66	Seamount 2	SD
039	25-Feb	18:02	1300	-7.61	-140.60	Seamount 2	MN
039	25-Feb	18:50	1301	-7.61	-140.61	Seamount 2	NT
040	25-Feb	20:35	1309	-7.61	-140.55	Seamount 2	CTD
041	25-Feb	22:15	1311	-7.65	-140.59	Seamount 2	CTD

041	25-Feb	23:18	1311	-7.65	-140.61	Seamount 2	MN
041	25-Feb	23:25	1311	-7.65	-140.61	Seamount 2	NT
042	26-Feb	01:29	1314	-7.69	-140.67	Seamount 2	CTD
043	26-Feb	04:00	1324	-7.69	-140.60	Seamount 2	MN
043	26-Feb	04:20	1324	-7.70	-140.61	Seamount 2	NT
044	27-Feb	00:11	1401	-6.72	-141.20	SPEW	CTD
045	27-Feb	09:08	1439	-6.34	-141.47	SPEW	CTD
045	27-Feb	09:08	1439	-6.34	-141.47	SPEW	HC
046	27-Feb	10:16	1450	-6.36	-141.48	SPEW	CTD
046	27-Feb	10:16	1440	-6.36	-141.48	SPEW	SD
046	27-Feb	10:16	1450	-6.36	-141.48	SPEW	HC
046	27-Feb	10:53	1435	-6.37	-141.41	SPEW	PN
046	27-Feb	10:53	1439	-6.37	-141.41	SPEW	PN
047	28-Feb	09:15	1560	-4.81	-142.31	SPEW	MN
047	28-Feb	09:39	1560	-4.83	-142.31	SPEW	MN
047	28-Feb	09:54	1561	-4.84	-142.32	SPEW	MN
047	28-Feb	10:00	1560	-4.85	-142.32	SPEW	NT
047	28-Feb	11:15	1562	-4.89	-142.32	SPEW	CTD
048	28-Feb	21:26	1600	-4.48	-142.62	SPEW	CTD
048	28-Feb	21:36	1600	-4.48	-142.62	SPEW	BP
048	28-Feb	22:20	1600	-4.50	-142.64	SPEW	PN
048	28-Feb	22:24	1600	-4.50	-142.64	SPEW	PN
049	28-Feb	23:39	1600	-4.52	-142.65	SPEW	CTD
049	1-Mar	00:13	1600	-4.55	-142.67	SPEW	BP
049	1-Mar	00:43	1600	-4.55	-142.67	SPEW	PN
049	1-Mar	00:49	1600	-4.55	-142.67	SPEW	PN
049	1-Mar	01:47	1600	-4.58	-142.68	SPEW	MN
049	1-Mar	02:12	1601	-4.60	-142.68	SPEW	MN
049	1-Mar	02:24	1601	-4.61	-142.69	SPEW	MN
049	1-Mar	02:30	1601	-4.61	-142.69	SPEW	NT
050	1-Mar	04:43	1602	-4.69	-142.71	NPEW	CTD
050	1-Mar	04:33	1602	-4.69	-142.71	NPEW	BP
050	1-Mar	05:37	1602	-4.72	-142.73	NPEW	PN
050	1-Mar	05:43	1602	-4.72	-142.73	NPEW	PN
051	2-Mar	00:17	1717	-3.12	-143.60	NPEW	CTD
051	2-Mar	00:31	1717	-3.12	-143.60	NPEW	PN
052	2-Mar	10:07	1770	-2.37	-144.04	NPEW	SD
052	2-Mar	10:25	1768	-2.36	-144.04	NPEW	CTD
053	3-Mar	00:08	1849	-1.05	-144.77	NPEW	MN
053	3-Mar	00:14	1849	-1.05	-144.78	NPEW	MN
053	3-Mar	00:24	1850	-1.06	-144.78	NPEW	NT
054	3-Mar	09:10	1899	-0.27	-145.17	NPEW	CTD
054	3-Mar	09:10	1899	-0.27	-145.17	NPEW	HC
055	3-Mar	10:45	1899	-0.27	-145.22	NPEW	CTD
055	3-Mar	10:45	1899	-0.27	-145.22	NPEW	SD
055	3-Mar	10:45	1899	-0.27	-145.22	NPEW	HC
055	3-Mar	11:17	1899	-0.26	-145.25	NPEW	PN
055	3-Mar	11:29	1899	-0.26	-145.25	NPEW	PN
056	4-Mar	00:26	1929	0.39	-145.61	NPEW	CTD
057	4-Mar	10:17	1957	1.02	-145.84	NPEW	CTD
058	4-Mar	00:51	No Instr. run	1.72	-146.35	NPEW	NT

058	4-Mar	22:15	No Instr. run	1.71	-146.23	NPEW	CTD
058	4-Mar	00:36	No Instr. run	1.72	-146.34	NPEW	MN
059	5-Mar	09:10	No Instr. run	2.31	-148.61	NPEW	CTD
059	5-Mar	09:10	No Instr. run	2.31	-148.64	NPEW	SD
060	5-Mar	22:25	No Instr. run	3.25	-147.07	NPEW	CTD
061	6-Mar	09:28	No Instr. run	4.01	-147.24	NPEW	CTD
062	7-Mar	09:50	2214	6.04	-147.24	ENPCW	CTD
062	7-Mar	09:50	2214	6.04	-147.24	ENPCW	HC
063	7-Mar	10:35	2215	6.02	-147.25	ENPCW	SD
063	7-Mar	10:40	2215	6.02	-147.25	ENPCW	CTD
063	7-Mar	12:13	2215	6.00	-147.27	ENPCW	CTD
063	7-Mar	12:13	2215	6.00	-147.27	ENPCW	HC
063	7-Mar	13:10	2215	5.99	-147.28	ENPCW	PN
063	7-Mar	13:15	2215	5.99	-147.28	ENPCW	PN
064	8-Mar	09:31	2331	7.65	-147.96	ENPCW	CTD
064	8-Mar	11:00	2332	7.61	-147.98	ENPCW	MN
064	8-Mar	11:24	2333	7.60	-147.98	ENPCW	MN
064	8-Mar	11:41	2333	7.58	-147.98	ENPCW	MN
064	8-Mar	11:52	2334	7.58	-147.98	ENPCW	NT
065	8-Mar	19:56	2377	8.04	-148.32	ENPCW	CTD
065	8-Mar	20:16	2377	8.04	-148.32	ENPCW	BP
065	8-Mar	21:05	2378	8.00	-148.34	ENPCW	PN
065	8-Mar	21:12	2378	8.00	-148.34	ENPCW	PN
066	8-Mar	23:44	2385	8.04	-148.42	ENPCW	CTD
066	9-Mar	00:04	2385	8.04	-148.42	ENPCW	BP
066	9-Mar	00:57	2386	8.01	-148.44	ENPCW	PN
066	9-Mar	01:06	2386	8.01	-148.44	ENPCW	PN
066	9-Mar	02:33	2387	7.98	-148.45	ENPCW	MN
066	9-Mar	02:50	2387	7.97	-148.45	ENPCW	MN
066	9-Mar	03:07	2387	7.96	-148.45	ENPCW	MN
066	9-Mar	03:15	2388	7.96	-148.45	ENPCW	NT
067	9-Mar	05:43	2391	7.90	-148.45	ENPCW	CTD
067	9-Mar	05:53	2391	7.90	-148.45	ENPCW	BP
067	9-Mar	06:09	2391	7.89	-148.46	ENPCW	PN
067	9-Mar	06:12	2391	7.89	-148.46	ENPCW	PN
068	9-Mar	22:19	2491	9.32	-149.34	ENPCW	MN
068	9-Mar	22:43	2491	9.30	-149.35	ENPCW	MN
068	9-Mar	22:57	2492	9.29	-149.35	ENPCW	MN
068	9-Mar	23:14	2493	9.28	-149.35	ENPCW	NT
069	14-Mar	00:36	3080	18.47	-153.82	ENPCW	CTD

Duplicate station numbers refer to different oceanographic equipment that was either deployed concurrently in the same location or was deployed sequentially in the same general location once the vessel was hove to. The General Location for stations has been categorized by position relative to nearest island or surface water mass: SPEW – South Pacific Equatorial Water; NPEW – North Pacific Equatorial Water and ENPCW – East North Pacific Central Water. Abbreviations for type of oceanographic equipment deployed: NT – neuston tow, PN – phytoplankton net, MN – meter net (either 1 or 2 m diameter), CTD – conductivity, temperature and depth profiler, HC – hydrocast with 12 Niskin bottles, SG – shipek grab, and BP – bathyphotometer. No Instr. run – Taffrail log pulled from the water for an exercise for our nautical science academic program.

Table 3. Surface station data for S203.

Station # (S203-)	Date (2006)	Local Time (+10 GMT)	Log (nm)	Lat (decimal Deg)	Lon (decimal Deg)	Temp (^{o}C)	Salinity (ppt)	PO_4 (µM)	SiO_2 (µM)	NO_3 (µM)	Chl-*a* (µg/l)
SS-001	7-Feb	13:22	0	-17.54	-149.57	29.1	35.8	3.847	10.644	6.352	0.714
SS-002	7-Feb	15:28	0	-17.53	-149.59	28.9	35.9	0.666	11.845	2.067	0.658
SS-003	7-Feb	16:00	0	-17.49	-149.66	28.9	36.0	0.488	14.928	BDL	0.092
SS-004	7-Feb	17:58	16	-17.51	-149.85	29.3	35.7	0.829	12.316	2.014	0.806
SS-005	8-Feb	17:54	17	-17.50	-149.86	29.2	35.8	0.444	5.818	0.306	0.532
SS-006	8-Feb	18:13	19	-17.47	-149.86	29.0	35.9	0.307	11.164	1.348	0.250
SS-007	8-Feb	18:20	20	-17.45	-149.86	29.0	35.9	0.644	12.965	1.058	0.069
SS-008	8-Feb	18:32	21	-17.44	-149.86	28.9	35.9	0.325	10.831	0.231	0.066
SS-009	8-Feb	18:47	22	-17.41	-149.86	28.9	35.9	0.492	7.189	BDL	0.057
SS-010	8-Feb	19:06	24	-17.38	-149.85	29.0	36.0	0.350	9.882	BDL	0.042
SS-011	8-Feb	19:45	29	-17.32	-149.82	29.0	35.9	0.252	11.869	BDL	0.044
SS-012	8-Feb	19:58	30	-17.31	-149.82	29.0	36.0	0.216	10.864	BDL	0.068
SS-013	8-Feb	20:13	31	-17.29	-149.81	29.1	36.0	0.481	13.865	BDL	0.055
SS-014	8-Feb	21:34	37	-17.19	-149.77	29.0	36.0	0.368	8.754	BDL	0.057
SS-015	8-Feb	23:34	44	-17.08	-149.73	28.9	36.0	0.346	8.260	BDL	0.031
SS-016	9-Feb	01:00	50	-16.98	-149.69	28.9	36.0	0.187	8.487	BDL	0.059
SS-017	10-Feb	06:36	188	-15.71	-148.29	29.6	35.5	0.361	14.782	BDL	0.062
SS-018	10-Feb	16:45	210	-15.55	-148.14	29.8	36.0	0.586	13.573	0.607	0.011
SS-019	10-Feb	20:25	222	-15.39	-148.18	29.6	36.1	0.296	16.737	BDL	0.011
SS-020	11-Feb	01:10	242	-15.17	-148.05	29.4	36.1	0.270	13.573	BDL	0.018
SS-021	11-Feb	01:38	243	-15.14	-148.03	29.4	36.1	0.278	13.192	BDL	0.017
SS-022	11-Feb	01:53	244	-15.12	-148.03	29.5	36.1	0.270	6.175	BDL	0.023
SS-023	11-Feb	02:07	245	-15.11	-148.02	29.5	36.1	0.296	15.763	0.156	0.025
SS-024	11-Feb	02:15	246	-15.09	-148.01	29.5	36.2	0.270	13.492	BDL	0.025
SS-025	11-Feb	02:27	247	-15.09	-148.01	29.5	36.2	0.299	13.946	BDL	0.041
SS-026	11-Feb	02:39	248	-15.08	-148.00	29.4	36.2	0.372	14.871	BDL	0.041
SS-027	11-Feb	02:50	249	-15.06	-148.00	29.4	36.2			BDL	0.039
SS-028	11-Feb	03:09	250	-15.04	-147.91	29.4	36.2	0.307	16.980	BDL	0.029
SS-029	11-Feb	03:20	251	-15.03	-147.99	29.5	36.2	0.209	12.640	BDL	0.023
SS-030	18-Feb	19:23	1041	-9.23	-140.60	28.7	36.0	0.285			0.273
SS-031	18-Feb	20:00	1043	-9.19	-140.60	28.7	36.0	0.227			0.125
SS-032	18-Feb	21:00	1045	-9.18	-140.61	28.7	36.0	0.263			0.170

Station # (S203-)	Date (2006)	Local Time (+10 GMT)	Log (nm)	Lat (decimal Deg)	Lon (decimal Deg)	Temp (^{o}C)	Salinity (ppt)	PO_4 (µM)	SiO_2 (µM)	NO_3 (µM)	Chl-*a* (µg/l)
SS-033	18-Feb	22:00	1048	-9.15	-140.61	28.7	36.0	0.288			0.181
SS-034	19-Feb	00:00	1051	-9.14	-140.63	28.7	36.0	0.307			0.224
SS-035	19-Feb	01:00	1056	-9.07	-140.62	28.6	36.0	0.357			0.465
SS-036	19-Feb	02:00	1060	-9.05	-140.66	28.6	35.9	0.267			0.596
SS-037	19-Feb	03:00	1064	-9.04	-140.69	28.5	35.9	0.626			0.403
SS-038	19-Feb	04:00	1065	-9.04	-140.71	28.5	35.9	0.477			0.259
SS-039	19-Feb	05:00	1068	-9.05	-140.67	28.6	35.9	0.825			0.470
SS-040	19-Feb	06:00	1075	-9.03	-140.56	28.6	35.9	0.822			0.484
SS-041	19-Feb	07:00	1075	-9.03	-140.57	28.5	35.9				0.582
SS-042	19-Feb	08:00	1076	-9.03	-140.59	28.7	35.9	0.898			0.543
SS-043	19-Feb	09:00	1079	-9.06	-140.63	28.7	35.9	0.825			0.647
SS-044	19-Feb	10:00	1080	-9.10	-140.65	28.8	35.9	0.814			0.566
SS-045	19-Feb	11:00	1083	-9.10	-140.69	28.8	35.9	0.843			0.473
SS-046	19-Feb	12:00	1084	-9.10	-140.71	28.9	35.9	0.854			0.300
SS-047	19-Feb	13:00	1085	-9.12	-140.67	29.0	35.9	0.869			0.493
SS-048	19-Feb	14:00	1090	-9.13	-140.64	29.0	35.9	0.963			0.437
SS-049	19-Feb	15:00	1091	-9.15	-140.63	29.0	35.9	0.822			0.350
SS-050	19-Feb	18:00	1095	-9.16	-140.60	28.8	35.9	0.829			0.678
SS-051	19-Feb	19:00	1097	-9.16	-140.62	28.7	35.9	1.033			0.364
SS-052	19-Feb	20:00	1099	-9.20	-140.64	28.7	35.9	0.847			0.225
SS-053	19-Feb	21:00	1102	-9.20	-140.69	28.8	35.9	0.872			0.209
SS-054	19-Feb	23:00	1105	-9.21	-140.66	28.7	35.9	0.934			0.167
SS-055	20-Feb	00:00	1110	-9.20	-140.61	28.7	35.9	0.949			0.319
SS-056	20-Feb	01:00	1110	-9.22	-140.62	28.6	35.9	0.999			0.226
SS-057	20-Feb	02:00	1115	-9.20	-140.55	28.6	35.9	0.920			0.350
SS-058	20-Feb	03:00	1115	-9.20	-140.57	28.6	35.9	0.027			0.252
SS-059	23-Feb	23:59	1165	-8.92	-140.10	28.8	35.9	0.043	8.014	2.611	0.174
SS-060	24-Feb	04:29	1199	-8.94	-140.10	28.5	35.8	0.071	9.369	3.246	0.257
SS-061	24-Feb	04:45	1201	-8.96	-140.18	28.5	35.9	0.006	6.043	7.427	0.630
SS-062	24-Feb	15:43	1201	-8.95	-140.15	29.3	35.7	0.051	7.476	2.267	0.952
SS-063	24-Feb	18:14	1202	-8.96	-140.17	28.9	35.9	0.051	4.811	BDL	0.647
SS-064	24-Feb	18:28	1203	-8.98	-140.19	28.8	35.9	0.051	5.886	BDL	0.459
SS-065	24-Feb	18:38	1205	-8.99	-140.21	28.8	35.8	0.047	5.102	BDL	0.748
SS-066	24-Feb	18:47	1206	-8.99	-140.22	28.7	35.8	0.000	7.219	BDL	0.762

Station # (S203-)	Date (2006)	Local Time (+10 GMT)	Log (nm)	Lat (decimal Deg)	Lon (decimal Deg)	Temp (^{o}C)	Salinity (ppt)	PO_4 (µM)	SiO_2 (µM)	NO_3 (µM)	Chl-*a* (µg/l)
SS-067	24-Feb	18:55	1207	-8.99	-140.24	28.8	35.9	0.075	4.799	2.373	0.552
SS-068	24-Feb	19:10	1208	-8.98	-140.24	28.9	35.7	0.318	7.028	7.824	0.454
SS-069	24-Feb	19:18	1209	-8.97	-140.24	28.9	35.7	0.000	3.478	7.136	0.510
SS-070	24-Feb	19:28	1210	-8.95	-140.24	28.8	35.9	0.071	7.252	6.765	0.384
SS-071	24-Feb	19:39	1211	-8.94	-140.27	28.7	35.9	0.031	6.076	4.542	0.451
SS-072	24-Feb	19:50	1212	-8.92	-140.31	28.8	35.9	0.071	7.140	3.352	0.577
SS-073	24-Feb	21:07	1222	-8.76	-140.34	28.9	35.7	0.124	5.505	18.832	0.151
SS-074	24-Feb	22:19	1232	-8.59	-140.34	28.8	35.8	0.096	7.622	20.446	0.139
SS-075	24-Feb	23:33	1242	-8.36	-140.37	29.1	35.8	0.152	9.582	26.188	0.102
SS-076	25-Feb	05:00	1284	-7.69	-140.51	28.6	35.6	0.144			0.147
SS-077	25-Feb	06:00	1285	-7.70	-140.55	28.6	35.6	0.185			0.147
SS-078	25-Feb	07:00	1286	-7.71	-140.55	28.6	35.6	0.363			0.144
SS-079	25-Feb	08:00	1290	-7.66	-140.60	28.5	35.7	0.432			0.110
SS-080	25-Feb	09:00	1290	-7.66	-140.62	28.6	35.6	0.468			0.090
SS-081	25-Feb	10:00	1291	-7.65	-140.64	28.5	35.6	0.428			0.094
SS-082	25-Feb	11:00	1291	-7.64	-140.66	28.7	35.6	0.395			0.083
SS-083	25-Feb	12:00	1292	-7.63	-140.67	28.6	35.6	0.416			0.084
SS-084	25-Feb	17:28	1299	-7.62	-140.60	28.9	35.6	0.404			0.062
SS-085	25-Feb	20:00	1307	-7.61	-140.56	28.6	35.6	0.404			0.076
SS-086	25-Feb	21:15	1309	-7.61	-140.55	28.7	35.6	0.343			0.068
SS-087	25-Feb	22:00	1311	-7.65	-140.59	28.8	35.7	0.318			0.057
SS-088	25-Feb	23:00	1311	-7.65	-140.60	28.7	35.6	0.355			0.071
SS-089	26-Feb	00:00	1313	-7.67	-140.63	28.6	35.6	0.355			0.097
SS-090	26-Feb	01:05	1314	-7.69	-140.65	28.4	35.6	0.371			0.098
SS-091	26-Feb	03:20	1320	-7.69	-140.61	28.5	35.7	0.339			0.120
SS-092	26-Feb	04:00	1324	-7.69	-140.60	28.4	35.7	0.416			0.111

Temperature and salinity and were determined using a continuous salinity/temperature flow-thru data logger. Phosphate (PO_4), silicate (SiO_2) and nitrate (NO_3) levels were measured by colorimetric analysis with and Ocean Optics Chem2000 digital spectrophotometer and chlorophyll-a (Chl-a) concentrations were determined with a Turner Designs Model 10-AU Fluorometer following methods outlined in Parsons, Maita and Lalli (1984; *A Manual of Chemical and Biological Methods for Seawater Analysis*, Pergamon Press). A blank space indicates that no sample was collected for that analysis. BDL – below detectable limits.

Figure 2. Surface plots of temperature, salinity and fluorescence for S203.

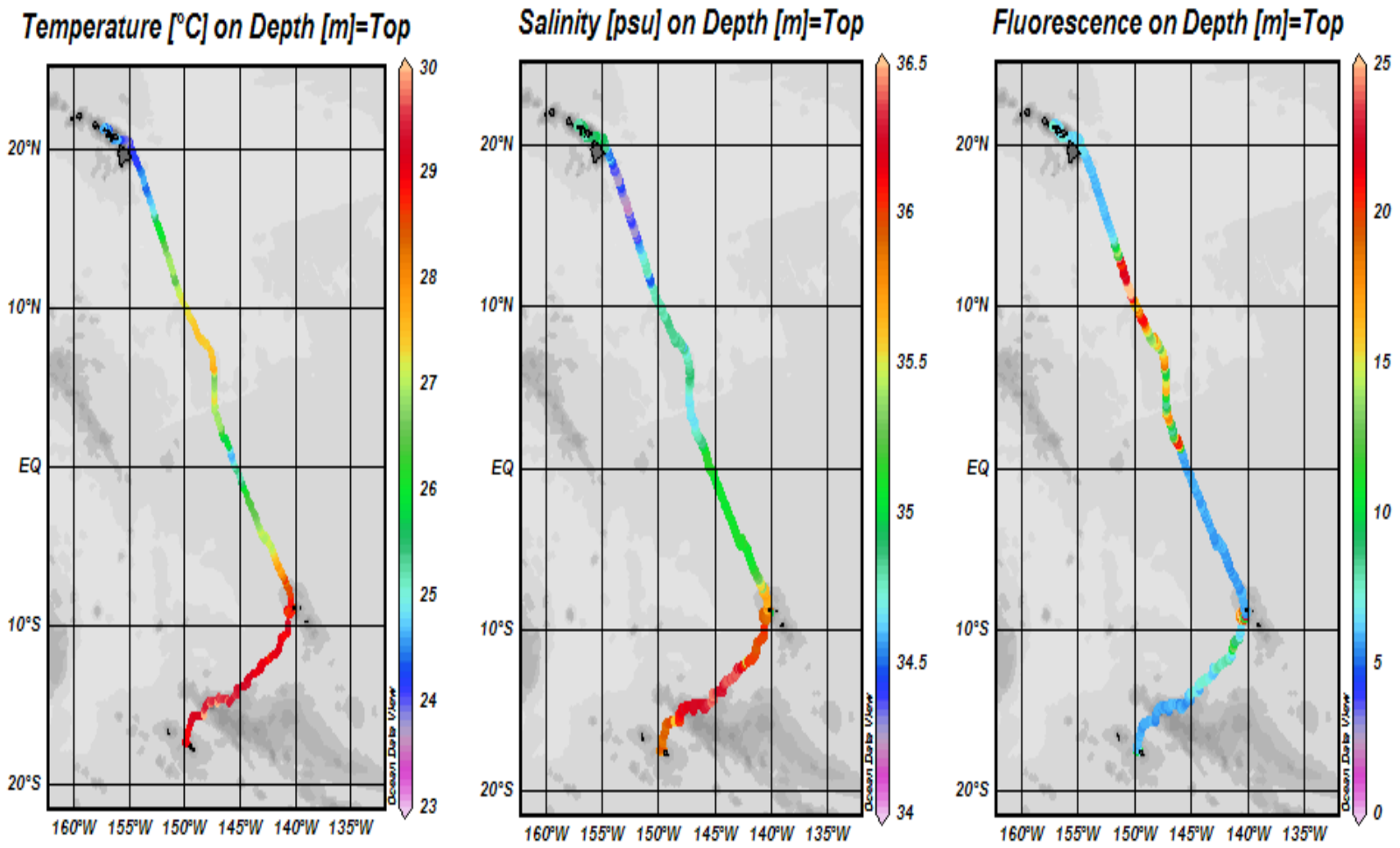

Table 4. CTD station data for S203.

Station # (S203)	Date (2006)	Local Time (+10 GMT)	Cast Depth (m)	Locale
003	9-Feb	09:51	1525	SPEW
005	10-Feb	09:15	216	SPEW
007	11-Feb	07:11	1275	SPEW
009	12-Feb	09:10	1480	SPEW
011	13-Feb	09:07	542	SPEW
012	13-Feb	21:10	200	SPEW
013	13-Feb	23:54	489	SPEW
014	14-Feb	04:24	200	SPEW
015	14-Feb	21:00	1425	SPEW
016	15-Feb	09:08	200	SPEW
017	15-Feb	10:15	210	SPEW
019	16-Feb	09:06	1321	SPEW
020	17-Feb	09:08	1445	SPEW
022	18-Feb	20:53	65	Seamount 1
023	18-Feb	23:25	46	Seamount 1
024	19-Feb	03:29	1080	Seamount 1
025	19-Feb	06:06	1010	Seamount 1
027	19-Feb	11:30	1068	Seamount 1
029	19-Feb	16:47	1060	Seamount 1
031	19-Feb	21:19	1045	Seamount 1
033	20-Feb	02:20	1047	Seamount 1
036	25-Feb	06:04	1035	Seamount 2
037	25-Feb	08:18	45	Seamount 2
038	25-Feb	11:39	1000	Seamount 2
040	25-Feb	20:35	1040	Seamount 2
041	25-Feb	22:15	320	Seamount 2
042	26-Feb	01:29	1129	Seamount 2
044	27-Feb	00:11	1325	SPEW
045	27-Feb	09:08	190	SPEW
046	27-Feb	10:16	215	SPEW
047	28-Feb	11:15	480	SPEW
048	28-Feb	21:26	190	NPEW
049	28-Feb	23:39	415	NPEW
050	1-Mar	04:43	1043	NPEW
051	2-Mar	00:17	1370	NPEW
052	2-Mar	10:25	1220	NPEW
054	3-Mar	09:10	130	NPEW
055	3-Mar	10:45	135	NPEW
056	4-Mar	00:26	1355	NPEW
057	4-Mar	10:17	1468	NPEW
058	4-Mar	22:15	701	NPEW

059	5-Mar	09:10	630	NPEW
060	5-Mar	22:25	965	NPEW
061	6-Mar	09:28	1170	NPEW
062	7-Mar	09:50	214	ENPCW
063a	7-Mar	10:40	1773	ENPCW
063b	7-Mar	12:13	235	ENPCW
064	8-Mar	09:31	535	ENPCW
065	8-Mar	19:56	220	ENPCW
066	8-Mar	23:44	615	ENPCW
067	9-Mar	05:43	210	ENPCW
069	14-Mar	00:36	2640	ENPCW

Table 5. Hydrocast station data for S203.

Station # (S203-)	Bottle #	Depth (m)	Temp (oC)	Salinity (ppt)	Density (kg/m^3)	O_2 (ml/l)	PO_4 (µM)	Chl-*a* (µg/l)	Locale
005	1	190	22.8	36.1	24.8	4.30	0.510	0.025	SPEW
005	2	175	23.5	36.1	24.7	4.60	0.847	0.071	SPEW
005	3	159	24.0	36.2	24.5	4.55	0.920	0.071	SPEW
005	4	142	24.6	36.2	24.4	4.91	0.880	0.102	SPEW
005	5	127	25.7	36.3	24.1	5.06	0.735	0.138	SPEW
005	6	112	26.8	36.2	23.7	5.30	0.785	0.091	SPEW
005	7	95	27.3	36.1	23.5	5.29	0.800	0.094	SPEW
005	8	79	28.2	36.1	23.1	5.27	0.793	0.006	SPEW
005	9	63	29.0	36.1	22.9	5.35	0.724	0.006	SPEW
005	10	47	29.0	36.0	22.8	5.56	0.666	0.015	SPEW
005	11	31	29.0	36.0	22.8	5.17	0.742	0.015	SPEW
005	12	16	29.0	36.0	22.8	5.21	0.749	0.011	SPEW
009	1	191	22.8	36.2	24.9	4.47	1.032	0.036	SPEW
009	2	175	23.5	36.2	24.7	4.58	0.963	0.074	SPEW
009	3	159	24.2	36.3	24.6	4.65	0.894	0.115	SPEW
009	4	144	24.9	36.3	24.4	4.72	0.854	0.120	SPEW
009	5	128	25.4	36.3	24.2	4.93	0.814	0.281	SPEW
009	6	111	26.5	36.3	23.9	5.12	0.811	0.117	SPEW
009	7	95	27.3	36.3	23.6	5.22	0.811	0.006	SPEW
009	8	79	27.7	36.2	23.4	5.34	0.956	0.057	SPEW
009	9	64	28.3	36.2	23.2	5.30	0.829	0.035	SPEW
009	10	48	28.9	36.2	23.0	5.07	0.749	0.051	SPEW
009	11	32	28.9	36.2	23.0	5.07	1.155	0.027	SPEW
009	12	16	29.0	36.2	23.0	5.05	0.724	0.031	SPEW
016	1	149	25.4	36.4	24.3				SPEW
016	2	148	25.4	36.4	24.3				SPEW
016	3	147	25.5	36.4	24.3				SPEW
016	4	146	25.5	36.4	24.3				SPEW
016	5	145	25.5	36.4	24.3				SPEW
016	6	144	25.5	36.4	24.3				SPEW
016	7	30	28.9	36.3	23.1				SPEW
016	8	29	28.9	36.3	23.1				SPEW
016	9	29	28.9	36.3	23.1				SPEW
016	10	28	28.9	36.3	23.1				SPEW
016	11	28	28.9	36.3	23.1				SPEW
016	12	27	28.9	36.3	23.1				SPEW
017	1	183	24.1	36.4	24.7	4.46	0.880	0.096	SPEW
017	2	175	24.4	36.4	24.6	4.69	0.880	0.088	SPEW
017	3	159	25.3	36.4	24.3	4.97	0.814	0.171	SPEW
017	4	144	25.7	36.5	24.2	5.03	1.061	0.163	SPEW
017	5	128	26.2	36.5	24.1	6.24	0.716	0.259	SPEW
017	6	111	26.6	36.5	24.0	5.77	0.756	0.227	SPEW
017	7	95	27.0	36.5	23.9	5.20	0.760	0.207	SPEW
017	8	79	27.5	36.5	23.7	5.27	0.716	0.176	SPEW
017	9	65	28.2	36.3	23.3	5.20	0.760	0.097	SPEW
017	10	47	28.6	36.3	23.2	5.32	0.793	0.075	SPEW
017	11	31	28.9	36.2	23.0	5.16	0.967	0.053	SPEW

Station # (S203-)	Bottle #	Depth (m)	Temp (oC)	Salinity (ppt)	Density (kg/m^3)	O_2 (ml/l)	PO_4 (µM)	Chl-*a* (µg/l)	Locale
017	12	16	28.9	36.2	23.0	5.24	0.270	0.043	SPEW
045	1	149	23.1	36.3	24.9				SPEW
045	2	147	23.2	36.3	24.9				SPEW
045	3	147	23.4	36.3	24.8				SPEW
045	4	146	23.5	36.4	24.8				SPEW
045	5	146	23.6	36.3	24.8				SPEW
045	6	145	23.7	36.4	24.8				SPEW
045	7	31	27.7	35.5	22.9				SPEW
045	8	31	27.7	35.5	22.9				SPEW
045	9	30	27.7	35.5	22.9				SPEW
045	10	29	27.7	35.5	22.9				SPEW
045	11	29	27.6	35.5	22.9				SPEW
045	12	28	27.6	35.4	22.9				SPEW
046	1	190.3	17.2	35.4	25.8	3.60	0.886	0.003	SPEW
046	2	174	19.8	35.8	25.4	4.17	0.440	0.007	SPEW
046	3	159.5	22.2	36.1	25.0	4.09	0.412	0.066	SPEW
046	4	143.5	24.2	36.4	24.7	4.45	0.359	0.154	SPEW
046	5	127.9	25.9	36.6	24.3	4.45	0.237	0.139	SPEW
046	6	112	26.7	36.4	23.9	4.56	0.335	0.172	SPEW
046	7	96	25.7	35.3	23.3	4.95	0.732	0.188	SPEW
046	8	79.4	25.9	35.0	23.1	5.14	0.331	0.129	SPEW
046	9	64.2	26.9	35.4	23.0	5.04	0.383	0.200	SPEW
046	10	47.8	27.8	35.6	22.9	5.16	0.331	0.183	SPEW
046	11	31	27.8	35.5	22.9	5.20	0.254	0.133	SPEW
046	12	15.3	27.4	35.2	22.7	5.05	0.310	0.081	SPEW
054	1	104	24.7	35.1	23.5				NPEW
054	2	104	24.7	35.1	23.5				NPEW
054	3	104.1	24.7	35.1	23.5				NPEW
054	4	104.2	24.7	35.1	23.5				NPEW
054	5	104.3	24.6	35.1	23.5				NPEW
054	6	103.9	24.6	35.1	23.5				NPEW
054	7	30.4	21.9	35.3	24.5				NPEW
054	8	30.3	21.9	35.3	24.5				NPEW
054	9	30.6	21.9	35.3	24.5				NPEW
054	10	29.2	21.8	35.3	24.5				NPEW
054	11	28.6	21.8	35.3	24.5				NPEW
054	12	28.4	21.8	35.3	24.5				NPEW
055	1	108.7	21.2	35.3	24.7	3.24	0.662	0.074	NPEW
055	2	108.6	21.2	35.3	24.7	3.28	0.647	0.116	NPEW
055	3	108.6	21.3	35.3	24.7	3.35	0.533	0.167	NPEW
055	4	108.4	21.3	35.3	24.7	3.14	0.782	0.110	NPEW
055	5	107.1	21.4	35.4	24.7	3.28	0.509	0.114	NPEW
055	6	106.8	21.5	35.4	24.7	3.34	0.481	0.068	NPEW
055	7	96.1	22.5	35.4	24.3	3.53	0.606	0.164	NPEW
055	8	80.9	23.4	35.3	24.1	4.01	0.501	0.358	NPEW
055	9	64.9	24.1	35.2	23.8	4.46	0.286	0.286	NPEW
055	10	48.6	24.4	35.2	23.6	4.66	0.432	0.316	NPEW
055	11	32.8	24.7	35.1	23.5	4.66	0.327	0.330	NPEW
055	12	16	24.8	35.1	23.5	4.71	0.375	0.214	NPEW
062	1	149.5	15.7	34.7	25.6	27.10			ENPCW

Station # (S203-)	Bottle #	Depth (m)	Temp (oC)	Salinity (ppt)	Density (kg/m^3)	O_2 (ml/l)	PO_4 (µM)	Chl-*a* (µg/l)	Locale
062	2	148.5	15.8	34.7	25.6	27.00			ENPCW
062	3	146.9	15.9	34.7	25.5	27.00			ENPCW
062	4	147.2	15.9	34.7	25.5	27.00			ENPCW
062	5	147.6	15.9	34.7	25.5	27.00			ENPCW
062	6	146.9	15.9	34.7	25.5	27.00			ENPCW
062	7	30.5	27.0	34.9	22.6	15.90			ENPCW
062	8	29.4	27.0	34.9	22.6	15.90			ENPCW
062	9	28.6	27.0	34.9	22.6	15.90			ENPCW
062	10	27.5	27.0	34.9	22.6	15.90			ENPCW
062	11	26.7	27.0	34.9	22.6	15.80			ENPCW
062	12	25.9	27.1	34.9	22.6	15.70			ENPCW
063	1	15.7	11.9	34.7	26.4	0.77	1.915	0.006	ENPCW
063	2	31.1	12.8	34.6	26.2	1.36	1.534	0.015	ENPCW
063	3	47.7	15.1	34.6	25.7	2.30	1.186	0.035	ENPCW
063	4	63.9	16.3	34.8	25.5	2.48	1.222	0.058	ENPCW
063	5	80.3	19.8	35.0	24.1	3.30	0.541	0.048	ENPCW
063	6	96	22.3	34.9	24.0	3.49	0.432	0.119	ENPCW
063	7	111.4	24.3	35.0	23.5	4.49	0.286	0.105	ENPCW
063	8	127.2	25.0	34.9	23.3	4.94	0.262	0.160	ENPCW
063	9	142.7	26.1	34.9	22.9	3.24	0.132	0.267	ENPCW
063	10	159.9	26.7	34.9	22.7	4.71	0.100	0.266	ENPCW
063	11	175.5	26.8	34.9	22.7	4.32	0.387	0.196	ENPCW
063	12	191.3	26.9	24.9	22.7	3.82	0.104	0.155	ENPCW

Water samples were collected in 2.5 liter Niskin bottles deployed on a self-contained carousel system with a SBE-019Plus CTD sensor (Seabird Instruments, Inc.). Dissolved oxygen (O_2) concentrations were determined chemically by Winkler titration. Phosphate (PO_4) levels were measured by colorimetric analysis with an Ocean Optics Chem2000 digital spectrophotometer and chlorophyll-a (Chl-a) concentrations were determined with a Turner Designs Model 10-AU Fluorometer following methods outlined in Parsons, Maita and Lalli (1984; *A Manual of Chemical and Biological Methods for Seawater Analysis*, Pergamon Press). Chlorophyll-*a* samples were filtered through 0.45 µm glass fiber filters. A blank space indicates that no sample was collected for that analysis.

Figure 3a. Temperature, salinity and sound velocity profiles as well as T-S diagrams for S203. Different oceanographic regions identified are denoted by color: Red – south Pacific equatorial water (SPEW), green - south Pacific equatorial water (SPEW) in transition: significant rainfall and cloud cover associated with a developing *La Nina* contributed to cooler and less saline surface waters, and blue – north Pacific equatorial water (NPEW). No CTD casts occurred in east north Pacific central waters (ENCPW).

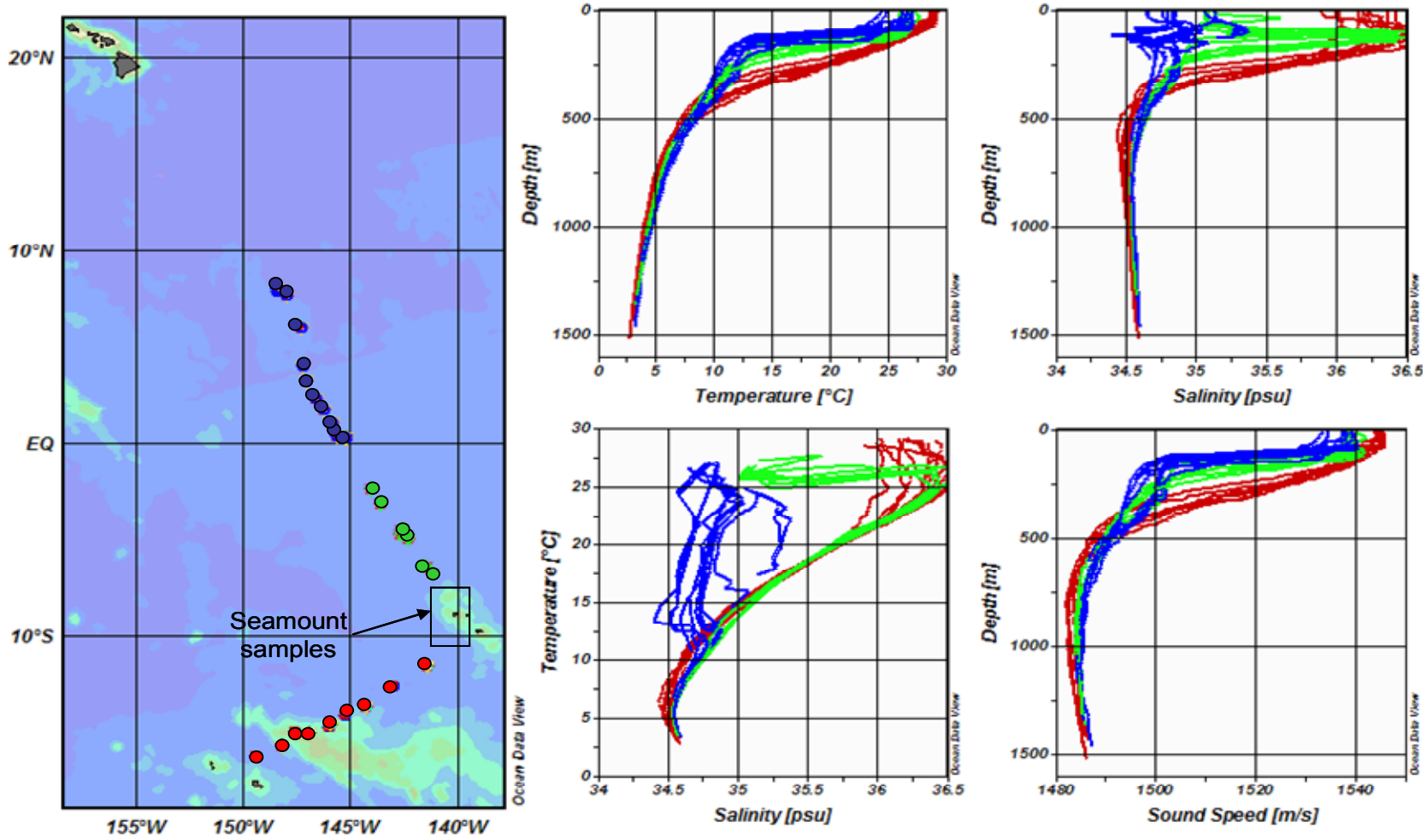

Figure 3b. Temperature, salinity and fluorescence profiles as well as T-S diagrams for surveyed seamounts during S203. Stations showing similar physical and biological structure of the water column are denoted by a similar color. An arrow indicates the station(s) occurring atop the seamount summit.

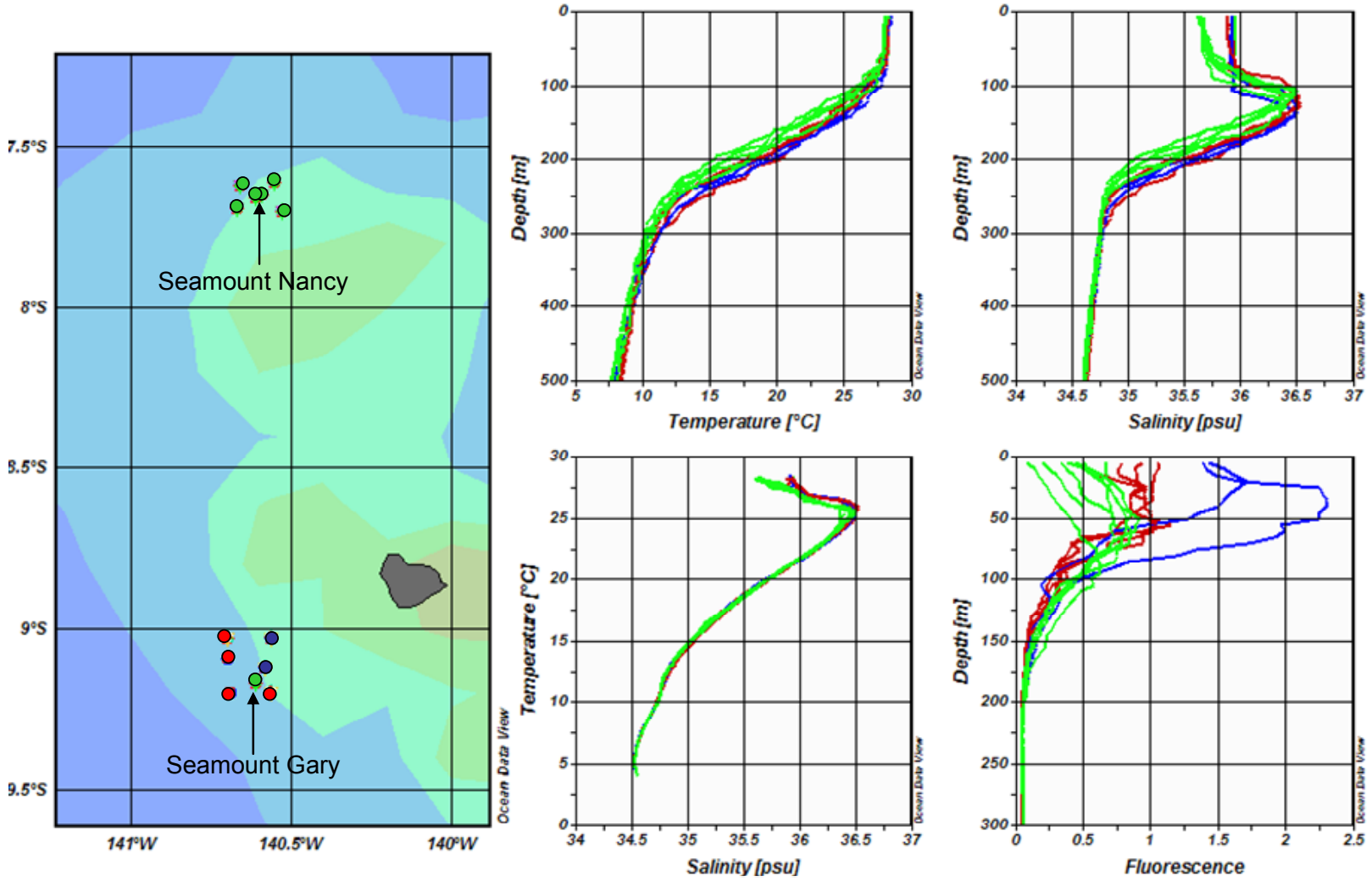

Figure 4a. Temperature, salinity and sound velocity cross-section plots for S203. Vertical black lines denote location and depth of CTD stations.

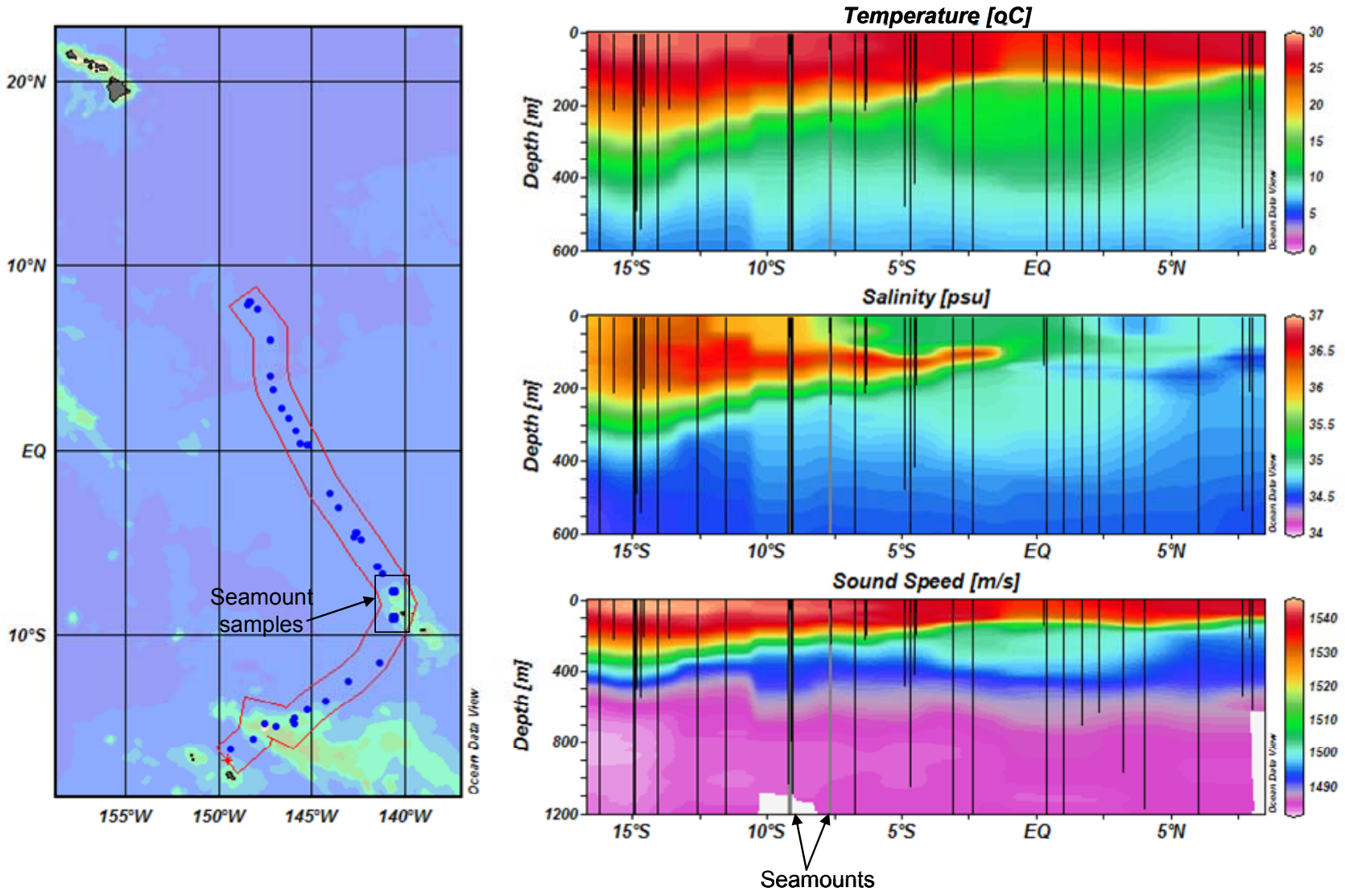

Figure 4b and c. Temperature, salinity and fluorescence cross-section plots for surveyed seamounts during S203. Vertical black lines denote location and depth of CTD stations. An arrow indicates the station(s) occurring atop the seamount. Seamount bathymetry is approximated by the shaded regions. Blank areas indicate gaps in the data.

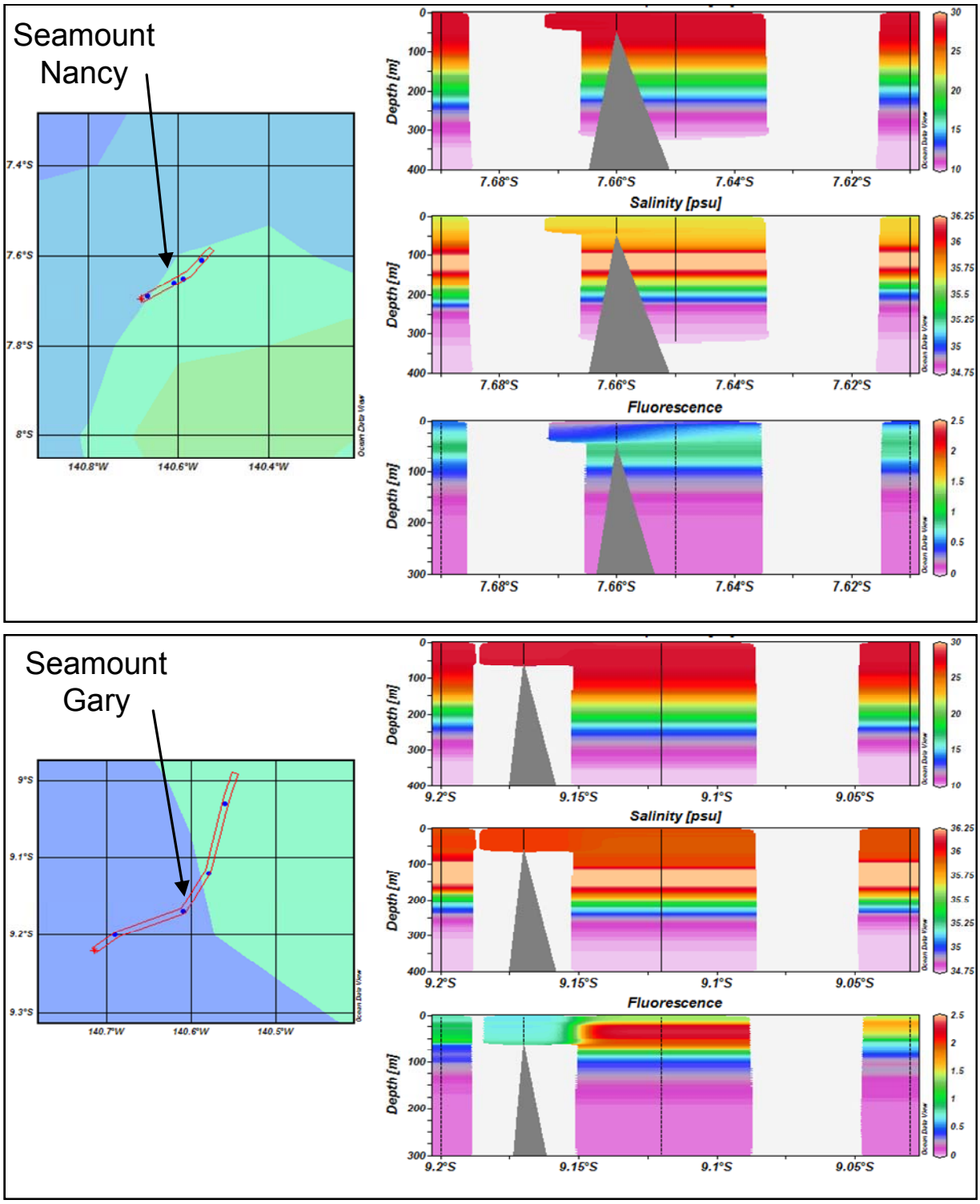

Figure 5a. Current direction and magnitude cross-section plots (N-S and E-W components) along with echo amplitude, for S203.

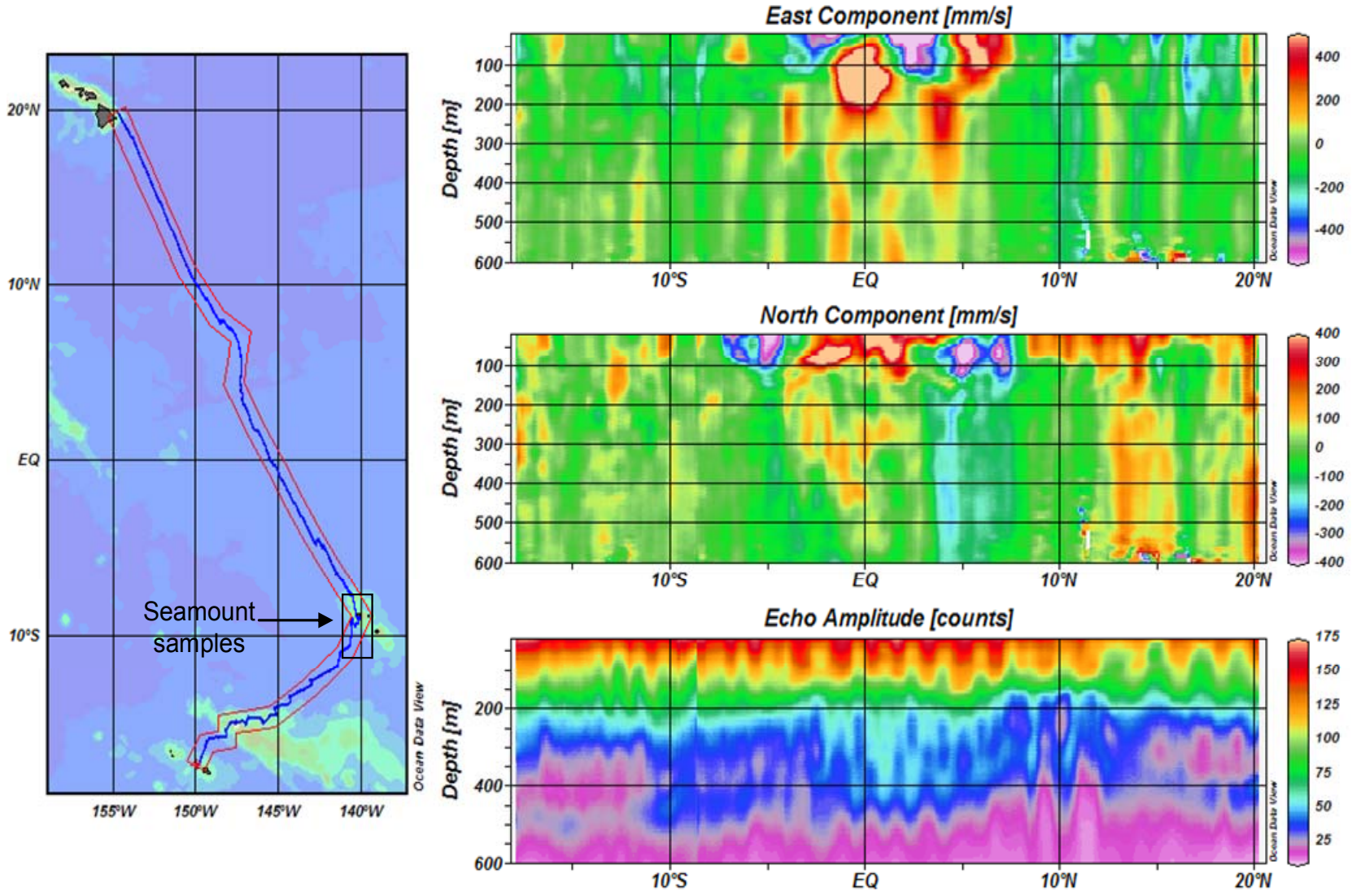

Figure 5b and c. Current direction and magnitude cross-section plots (N-S and E-W components) along with echo amplitude for surveyed seamounts during S203. Seamount bathymetry is approximated by the shaded regions. Blank areas indicate gaps in the data.

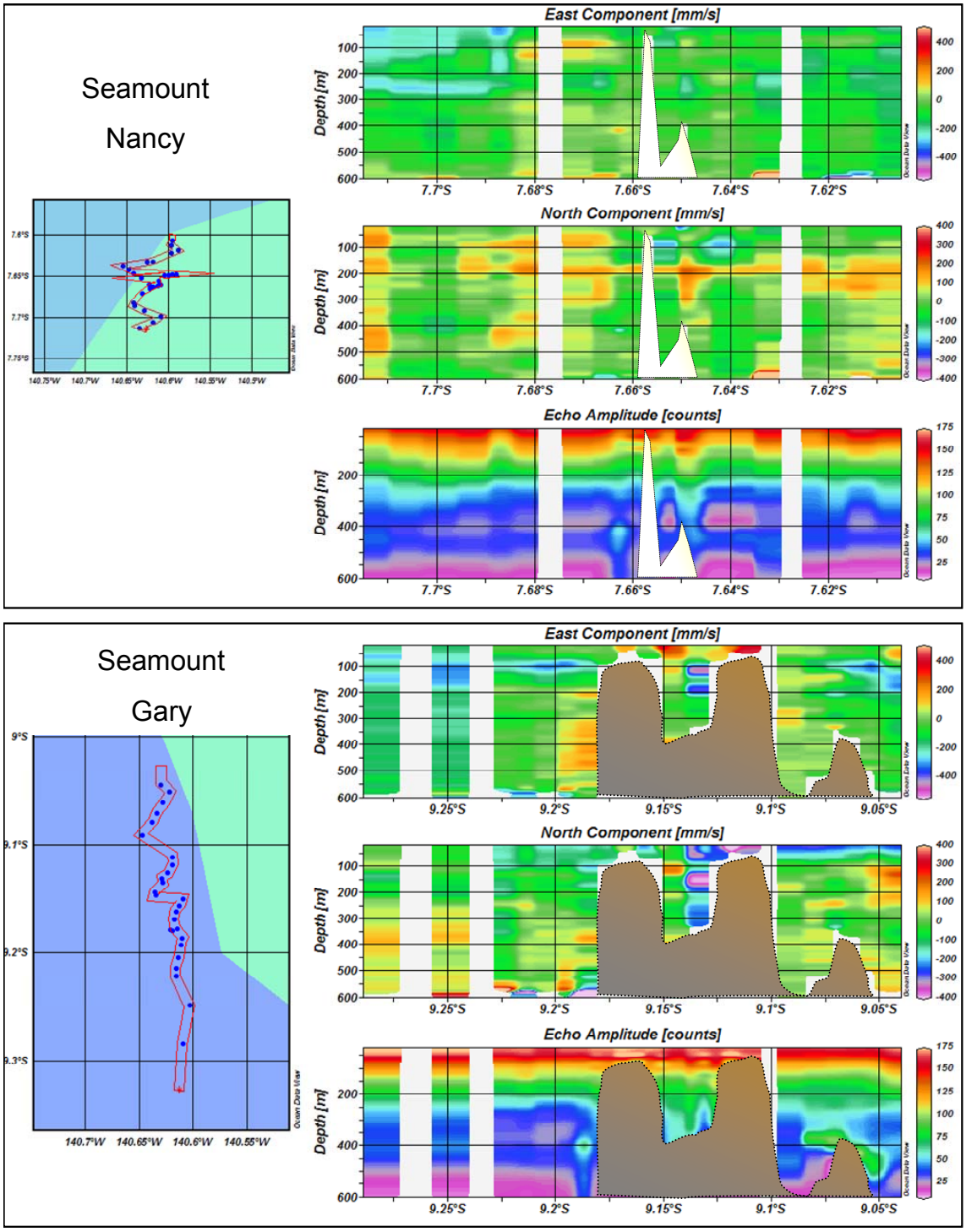

Table 6. Neuston station data for S203.

Station # (S203-)	Date (2006)	Local Time (+10 GMT)	Tow Area (m^2)	Temp (°C)	Salinity (ppt)	Zooplankton (ml/m^2)	Halobates (#)	Myctophids (#)	Plastic (#)	Tar
004	9-Feb	22:50	2778	29.3	35.9	0.005	2	0	0	no
006	10-Feb	22:21	1070	29.5	36.1	0.701	0	0	0	no
008	12-Feb	00:13	2037	29.7	36.2	0.002	3	0	1	no
010	13-Feb	00:27	2148	29.6	36.2	0.001	6	0	0	no
011	13-Feb	10:46	2919	29.6	36.2	0.000	3	0	0	no
013	14-Feb	02:16	2446	29.6	36.2	0.011	13	0	1	no
018	16-Feb	00:27	1667	29.1	36.4	0.005	9	2	0	no
021	17-Feb	21:19	2503	29.1	35.9	0.017	9	0	0	no
026	19-Feb	08:57	1755	28.7	35.9	0.035	0	0	0	no
028	19-Feb	13:48	2037	28.8	35.9	0.047	3	0	0	no
030	19-Feb	18:51	1755	28.7	35.9	0.023	8	0	0	no
032	20-Feb	00:10	1861	28.7	35.9	0.054	0	0	0	no
039	25-Feb	18:50	2482	28.9	35.6	spilled	0	0	0	no
041	25-Feb	23:25	3941	28.7	35.6	0.010	17	2	0	no
043	26-Feb	04:20	1959	28.4	35.6	0.019	12	0	0	no
047	28-Feb	10:00	2619	27.0	35.0	0.009	0	0	0	no
049	1-Mar	02:30	2436	27.0	35.1	0.021	0	0	0	no
053	3-Mar	00:24	2778	25.5	35.1	0.030	0	0	0	no
058	4-Mar	00:51	2968	25.8	34.8	0.030	0	27	0	no
064	8-Mar	11:52	2070	27.4	34.8	0.025	0	0	6	no
066	9-Mar	03:15	4357	27.4	34.8	0.000	0	0	0	no
068	9-Mar	23:14	1667	27.4	34.8	0.054	0	0	0	no

Tow area was derived from estimating tow distance in meters calculated distance between beginning and ending geographic positions. The net opening was 1.0 m wide by 0.5 m tall with a net mesh of 333 μm. Zooplankton density is recorded as wet volume displacement per tow area (ml/m^2). Lantern fish (Family Myctophidae) and *Halobates spp.* were sorted from net contents and recorded as numbers caught per tow. Floating plastic was also sorted from the nets contents, counted and recorded as numbers collected per tow. Floating tar was sorted from the nets contents and recorded present or absent.

Table 7. Meter net station data for S203.

Station # (S203-)	Date (2006)	Local Time (+10 GMT)	Target Tow Depth (m)	Net Diameter (m)	Tow Volume (m^3)	Zooplankton (ml/m^3)
004	9-Feb	22:42	100	1	3740	0.019
006	10-Feb	22:15	100	1	1093	0.032
008	12-Feb	0:08	100	1	2334	0.025
010	13-Feb	0:15	100	1	2106	0.027
011	13-Feb	10:22	500	1	6806	0.018
011	13-Feb	10:32	250	1	4157	0.012
011	13-Feb	10:44	75	1	2991	0.023
013	14-Feb	1:33	500	1	3635	0.009
013	14-Feb	1:56	250	1	2756	0.011
013	14-Feb	2:11	75	1	1877	0.019
018	16-Feb	0:15	100	1	2636	0.041
021	17-Feb	21:04	100	1	4287	0.051
026	19-Feb	8:43	225	2	9860	0.028
028	19-Feb	13:38	75	2	7580	0.049
030	19-Feb	18:47	40	2	2434	No data *
032	19-Feb	23:47	225	2	4924	0.056
039	25-Feb	18:02	225	2	14392	0.033
041	25-Feb	23:18	35	2	12375	0.020
043	26-Feb	4:00	225	2	16387	0.015
047	28-Feb	9:15	450	1	7242	0.019
047	28-Feb	9:39	200	1	2660	0.056
047	28-Feb	9:54	50	1	1298	0.096
049	1-Mar	1:47	450	1	2126	0.063
049	1-Mar	2:12	200	1	2348	0.047
049	1-Mar	2:24	50	1	842	0.125
053	3-Mar	0:08	100	1	2041	0.305
053	3-Mar	0:14	50	1	1528	0.161
058	4-Mar	0:36	100	1	4507	0.100
064	8-Mar	11:00	500	1	8856	0.020
064	8-Mar	11:24	250	1	3086	0.071
064	8-Mar	11:41	75	1	1751	0.119
066	9-Mar	2:33	500	1	No data **	No data **
066	9-Mar	2:50	250	1	No data **	No data **
066	9-Mar	3:07	75	1	No data **	No data **
068	9-Mar	22:19	500	1	7439	0.039
068	9-Mar	22:43	250	1	4759	0.059
068	9-Mar	22:57	75	1	3278	0.092

Tow volume was derived from estimating tow distance in meters calculated distance between beginning and ending geographic positions. The net opening was either 1 or 2 meters wide with a net mesh of 333 μm. Zooplankton density is recorded as wet volume displacement per volume area (ml/m^3). Some samples were not processed: * contents of cod end jar spilled and ** net positions compromised due to movement along wire resulting from failure of wire clamps.

Table 8. Phytoplankton net station data for S203.

Station # (S203-)	Date (2006)	Local Time (+10 GMT)	Drift Depth (m)	Descriptive Significance
001	7-Feb	13:07	0	surface
002	7-Feb	18:02	0	surface
003	9-Feb	10:20	0	surface
005	10-Feb	09:09	0	surface
005	10-Feb	10:11	140	deeper DCM
005	10-Feb	10:11	130	shallow DCM
007	11-Feb	07:14	0	surface
009	12-Feb	09:39	0	surface
009	12-Feb	12:11	130	deeper DCM
009	12-Feb	12:13	120	shallow DCM
012	13-Feb	21:34	90	deeper BPOT peak
012	13-Feb	21:39	45	shallow BPOT peak
013	14-Feb	00:43	90	deeper BPOT peak
013	14-Feb	00:43	45	shallow BPOT peak
014	14-Feb	05:04	90	deeper BPOT peak
014	14-Feb	05:11	45	shallow BPOT peak
017	15-Feb	11:01	110	deeper DCM peak
017	15-Feb	11:05	120	shallow DCM peak
019	16-Feb	09:13	0	surface
034	23-Feb	23:59	0	surface
035	24-Feb	15:55	0	surface
046	27-Feb	10:53	80	deeper DCM peak
046	27-Feb	10:53	70	shallow DCM peak
048	28-Feb	22:20	90	deeper BPOT peak
048	28-Feb	22:24	60	shallow BPOT peak
049	1-Mar	00:43	90	deeper BPOT peak
049	1-Mar	00:49	60	shallow BPOT peak
050	1-Mar	05:37	90	deeper BPOT peak
050	1-Mar	05:43	45	shallow BPOT peak
051	2-Mar	00:31	0	surface
055	3-Mar	11:17	55	deeper DCM peak
055	3-Mar	11:29	35	shallow DCM peak
063	7-Mar	13:10	65	deeper DCM peak
063	7-Mar	13:15	45	shallow DCM peak
065	8-Mar	21:05	75	deeper BPOT peak
065	8-Mar	21:12	15	shallow BPOT peak
066	9-Mar	00:57	60	deeper BPOT peak
066	9-Mar	01:06	15	shallow BPOT peak
067	9-Mar	06:09	80	deeper BPOT peak
067	9-Mar	06:12	60	shallow BPOT peak

Net diameter was 30cm with 63 um mesh. Nets were towed at various depths: surface, deeper or shallow DCM (deep chlorophyll-a maximum) depths, and similarly the deeper or shallow BPOT (bioluminescence potential) depths. Depths of the DCM and BPOT were determined by separate deployments of a Turner Design *in vivo* fluorescence meter attached to a CTD or a bathyphotometer respectively. Nets drifted at depth for 30 minutes.

Table 9 Bathyphotometer station data for S203.

Station # (S203-)	Date (2006)	Time (local +10 GMT)	Cast Depth (m)
012	13-Feb	21:30	100
013	14-Feb	00:13	100
014	14-Feb	04:34	100
048	28-Feb	21:36	100
049	1-Mar	00:13	100
050	1-Mar	04:33	100
065	8-Mar	20:16	100
066	9-Mar	00:04	100
067	9-Mar	05:53	100

Table 10 Secchi disc station data for S203.

Station # (S203-)	Date (2006)	Time (local +10 GMT)	Secchi Depth (m)
005	10-Feb	9:09	32
009	12-Feb	9:10	34
016	15-Feb	9:08	24
017	15-Feb	10:15	24
025	19-Feb	6:06	11
027	19-Feb	11:30	13
028	19-Feb	13:38	14
029	19-Feb	16:35	11
036	25-Feb	6:04	23
037	25-Feb	8:01	25
038	25-Feb	11:39	29
046	27-Feb	10:16	21
052	2-Mar	10:07	23
055	3-Mar	10:45	17
059	5-Mar	9:10	20
063	7-Mar	10:35	19

Table 11 Shipek grab station data for S203.

Station # (S203-)	Date (2006)	Time (local +10 GMT)	Sample Depth (m)
022	18-Feb	2038	75 atop seamount 1
023	18-Feb	2308	55 atop seamount 1
037	25-Feb	0801	54 atop seamount 2

Table 12. Student research topics for S203.

	Research Team I:
Alex H. Dowley	Pacific Surface Water Mass Variation in Relation to ENSO
Matthew D. Jurjonas	Analysis of Sea Surface Height and Current Magnitude in Relation to the ENSO Cycle
Jessica L. Friedman	Barrier Layer Dynamics in the Central Equatorial Pacific
Stephanie Thompson	Predicting the Correlations Between the SOFAR Channel Axes Depth and the ENSO Cycle from Tahiti to Hawaii
	Research Team II:
Zoe E. Acher	*Escherichia coli* Bacteria as an Indicator of Human Waste Contamination in the Equatorial Pacific Ocean between Tahiti and Hawaii
Joseph E. Mastrangelo	The Island Mass Effect and Nutrient Runoff in South Pacific Polynesia and Open Ocean
Jonathan P. Fagan	Comparison of *C.uncinata*, *C. globulosa*, and *L. inflata* as Indicator Species of ENSO Cycles in the Equatorial Pacific Waters
Andrew R. Scott	The Horizontal Distribution of the Myctophid in the Central Equatorial Pacific
Annika E. Savio	A Broad Study of the Factors Influencing the Depth, Magnitude, and Species Composition of the Deep Chlorophyll Maximum in the Central Pacific Ocean
Shannon N. McIntyre	Nutrient Enrichments in the Central Equatorial Pacific
	Research Team III: DVM
Letrice N. Kelly, Andrea G. Murphy and Adria J. Wentzel	The Diel Vertical Migration of Myctophids with Respect to Zooplankton Biomass and the Lunar Cycle
Abbey S. Dubin	Pteropods: Determining Factors of Predation and Diel Vertical Migration
Brian J. Goff	An Investigation into the Principal Cause of Diel Bioluminescence Patterns in the Pacific Ocean
	Research Team IV: Seamounts
Ariadne T. Reynolds, Theodore Samuels, Kayla J. Ouellette and Kerensa C. Gallaway	Factors Influencing Increased Productivity Near South Pacific Seamounts